IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process for the disposal of sulfur, comprising: ~~as derivatives which are in the liquid state at room temperature, which comprises:~~

~~a)~~ transforming elemental sulfur into ~~sulfanes~~ at least one liquid state sulfane having the ~~general~~ formula H_2S_{n+1}, wherein n is a number from 1 to 7; and

~~b) optionally mixing elemental sulfur in powder or molten form with the liquid sulfanes, up to such a concentration as to guarantee the pumpability of the mixture;~~

~~c)~~ injecting ~~the liquid sulfanes~~ said at least one liquid state sulfane at room temperature into a geological ~~formations~~ formation, said formation having a temperature of from room temperature to 150°C.

Claim 2 (Currently Amended): The process according to claim 1, wherein said transforming comprises directly reacting sulfur in the molten state with hydrogen sulfide. ~~the sulfanes are produced by the direct reaction of sulfur in the molten state and hydrogen sulfide.~~

Claim 3 (Currently Amended): The process according to claim 2, further comprising generating said elemental sulfur by the Claus processes prior to said transforming. ~~wherein the elemental sulfur used in the synthesis of sulfanes comes directly from the Claus process.~~

Claim 4 (Currently Amended): The process according to claim 1, further comprising obtaining said elemental sulfur in the form of blocks from a sulfur storage site prior to said transforming.

~~wherein the sulfur comes from a surface storage site.~~

Claim 5 (Withdrawn - Currently Amended): The process according to claim 1, wherein said transforming occurs ~~the sulfanes are produced~~ according to ~~the following~~ reaction schemes (1) and (2):

$$S + Cl_2 \rightarrow SCl_2 \qquad (1)$$

$$n\ SCl_2 + H_2S \rightarrow H_2S_{n+1} + x\ HCl \qquad (2)$$

wherein n represents a number ranging from 1 to 7 and x depends on the stoichiometry of the reaction.

Claim 6 (Withdrawn - Currently Amended): The process according to ~~claim 4, wherein~~ claim 5, further comprising oxidizing the hydrochloric acid obtained thereby ~~produced is oxidized~~ with air in the presence of a catalyst to produce Cl_2 and recycling the Cl_2 produced thereby. ~~which is recycled to the preparation system of sulfanes~~.

Claim 7 (Currently Amended): The process according to ~~any of the previous claims~~ claim 1, wherein the difference in pressure necessary for pumping said at least one liquid state sulfane is described ~~the liquid obtained from the liquefaction of sulfur is provided~~ by the formula:

$$\Delta P = 2f \cdot \rho \cdot \mu_m^2 L/D_{eq}$$

wherein

L is the length of piping ~~used~~ for said injecting ~~injection into the geological structure~~,

D_{eq} ~~its~~ is the equivalent diameter of the piping,

μ_m the average rate of the fluid pumped,

ρ the density of the fluid pumped and

f the friction factor which is a function of the roughness of the pipe and

Reynolds number:

$$Re = D_{eq} \cdot \mu_m \cdot \rho/\mu$$

wherein μ is the ~~kinematic~~ viscosity of the fluid.

Claim 8 (Currently Amended): The process according to claim 1, further comprising purifying hydrocarbons or natural gas to obtain the sulfur. ~~any of the previous claims, wherein the disposed sulfur comes from the purification treatment of hydrocarbons of a fossil nature (crude oil) or natural gas.~~

Claim 9 (Currently Amended): The process according to ~~any of the previous claims~~ claim 1, further comprising obtaining said elemental sulfur from crude oil or natural gas which is present in said geological formation prior to said injecting.
~~wherein the geological structures suitable for receiving the molten sulfur are those forming the reservoir from which the crude oil or natural gas containing sulfur are removed.~~

Claim 10 (Currently Amended): The process according to claim 1, further comprising dissolving elemental sulfur within said at least one liquid state sulfane, wherein said elemental sulfur is in the molten state or in the form of a finely ground powder having a particle size of from 1 to 100 µm, and dissolved up to a concentration corresponding to the solubility limit.

~~any of the previous claims wherein elemental sulfur, in the molten state or as a finely ground powder with a particle size ranging from 1 to 100 μm, is added to the sulfanes, up to a concentration corresponding to the solubility limit.~~

Claim 11 (New): The process according to claim 1, where sulfur is present in said at least one liquid state sulfane at a weight content ranging from 97% to 99.2% by weight of said at least one liquid state sulfane.

Claim 12 (New): The process according to claim 1, wherein said at least one liquid state sulfane exhibits a viscosity of from 0.616 to 11.1 CPoise at 20°C.

Claim 13 (New): The process according to claim 1, wherein said at least one liquid state sulfane is represented by average formula:

$$H_2S_{3.4}$$

and has a viscosity of 1.84 CPoise.

Claim 14 (New): The process according to claim 1, wherein said at least one liquid state sulfane is represented by average formula:

$$H_2S_{4.5}$$

and has a viscosity of 3.64 CPoise.

Claim 15 (New): The process according to claim 13, wherein said at least one liquid state sulfane has a density of 1.53 g/cm^3.

Claim 16 (New): The process according to claim 14, wherein said at least one liquid state sulfane has a density of 1.60 g/cm^3.

Claim 17 (New): The process according to claim 5, wherein $FeCl_3$ is present during the reaction of scheme 1.